

SECTION 18310

WATER TREATMENT SYSTEMS OPERATIONS, MAINTENANCE AND REPAIR SERVICES

1. APPLICABLE PUBLICATIONS

1.1 The publications listed below form a part of this specification to the extent referenced. The publications, if referenced in the text, are by basic designation only. The latest edition at time of contract award of the referenced publications shall govern:

1.1.1 U.S. Army Regulations:

420-46 Facilities Engineering - Water & Sewage.

TM 5-660 Maintenance & Operation of Water Supply, Treatment and Distribution Systems.

1.1.2 Federal Regulations:

PL 93-523 Safe Drinking Water Act (SDWA).

40 CFR National Primary Drinking Water Regulation Part 141 (NPDWR).

40 CFR NPDWR Implementation Part 142.

40 CFR National Secondary Drinking Water: Part 143 Regulations.

1.1.3 State of Arizona Regulations:

ARS 49-101 Arizona Potable Water Standards.

ARS 49-201 State of Arizona Department of Environmental Quality Pamphlet "Public and Semi-public Water Supply System Rules", chapter 4, Article 2, Sections R18-4-201 through R18-4-290.

2. MATERIALS AND EQUIPMENT

2.1 MATERIAL AND EQUIPMENT: Materials and equipment shall conform to the respective publications and other requirements specified herein and shall be the products of manufacturers regularly engaged in the manufacture of such products. Items of equipment shall essentially duplicate equipment that has been in satisfactory use.

2.1.1 Any replacement items shall be of the type and size as recommended by the water treatment system (WTS) manufacturer, and of the type and size as currently in use to be replaced.

2.1.2 The Contractor shall provide and furnish all water treatment chemicals (salt, acid, etc.) and all other consumable supplies, such as oil, grease, solvents, field test kits, R. O. Unit filters, etc., required for the normal operations of the WTS. The cost of these items and supplies shall be included with labor and material in the Contractor's bid for operations and maintenance of WTS. The system located at Building 6008 is exempt from this paragraph.

2.1.2.1 Materials and items not covered in paragraph 2.1.2 that are required in conjunction with the repair of any government owned WTS shall be paid for separately as an emergency repair materials item, as covered under Emergency Repairs, paragraph 7.

3. WATER TREATMENT SYSTEMS IN USE

3.1 The following is a list of WTS currently in operation at YPG. All WTS are complete and fully functional:

1. BLDG. GP-5 Gun Position #5

MAKE: Applied Membranes Inc.

MODEL: AA 22521-PT-U

NOTES: Unit has 2 water storage tanks and an RO-MATE-40

2. BLDG. GP-17A Gun Position #17A

MAKE: Flowmatic Systems Inc.

MODEL: RO300G-FL

NOTES: Unit has an 86-gallon pressure tank as part of the system

3. BLDG. 2060 Petroleum Lab

MAKE: N/A

MODEL: N/A

NOTES: Unit has a storage tank, booster pump and an RO-MATE-20

4. BLDG. 2067 Photo/Geodetics

MAKE: Water General Corp.

MODEL: #51

NOTES: Unit has an RO-MATE-20

5. BLDG. 2090 EC III Vehicle Maint.

MAKE: Kelco Water Engineering

MODEL: CROS 800M

NOTES: Unit has a storage tank, booster pump and a small pressure tank

6. BLDG. 2105 ROC Mech. Room

MAKE: Tomas & Knight Co.

MODEL: 1000 GPD

NOTES: Unit has (2) Contractor furnished rechargeable commercial grade mixed bed deionization tanks with a water quality indicating light. "Requirements are to provide a minimum of 6 GPM of deionized water". Unit also has an RO-MATE-40

7. BLDG. 2105 ROC Café
MAKE: Kelco
MODEL: 1000 GPD
NOTES: Unit has an RO-MATE-20 and an RO-MATE-40

8. BLDG. 2105 Optics Ice House
MAKE: Applied Membranes Inc.
MODEL: AA 12521 tp
NOTES: Unit has an RO-MATE-80

9. BLDG. 2220 Communications Electric Shop
MAKE: Flowmatic Systems Inc.
MODEL: RO500G-FL
NOTES: Unit has an 80-gallon pressure tank as part of the system

10. BLDG. 2700 Met Team
MAKE: Applied Membranes Inc.
MODEL: AA-12521 tp
NOTES: Unit has Rayne pressure tank

11. BLDG. 2970 Aviation Systems Division
MAKE: Applied Membranes Inc.
MODEL: L-125A-116
NOTES: Unit has an RO MATE-80

12. BLDG. 3013 Fire Station
MAKE: Kelco Water Engineering
MODEL: WM-RO-800P
NOTES: Unit has a water softener and an RO-MATE-40

13. BLDG. 3017 Maintenance Hanger AVUM
MAKE: Applied Membranes Inc.
MODEL: L 125A-116
NOTES: Unit has RO MATE-40 tank

14. BLDG. 3189 Fire Station
MAKE: 2 residential RO Units (1 Bruner and 1 Gold Seal RO Unit)
MODEL: 24 GPD
NOTES: 3-gallon storage tank

15. BLDG. 3294 Inert Storehouse
MAKE: Applied Membranes Inc.
MODEL: (as on the name plate) AA 2521 TP
NOTES: Unit has an RO-MATE-80

16. BLDG. 3333 Heavy equipment Yard
MAKE: Applied Membranes Inc.
MODEL: AA 12521 tp
NOTES: Unit has an RO-MATE-86 tank

17. BLDG. 3501 KFR Water Fill Station
MAKE: D&S Services
MODEL: 1300 GPD

NOTES: Unit has a water softener, water storage tank, booster pump and 86-gallon pressure tank

18. BLDG. 3490-S Test Vehicle Shop

MAKE: Applied Membranes Inc.

MODEL: AA 22521 tp

NOTES: Unit has an RO-MATE-80

19. BLDG. 3504-E Vehicle Maintenance Shop

MAKE: Applied Membranes Inc.

MODEL: AA 22521 tp

NOTES: Unit has an RO-MATE-40

20. BLDG. 3504-W Metal Shop

MAKE: Applied Membranes Inc.

MODEL: AA 22521 tp

NOTES: Unit has an RO-MATE-40

21. BLDG. 3519 Safety Office

MAKE: Kelco Water Engineering

MODEL: LAB-150-LP

NOTES: Unit has built in 14-gallon product water storage tank

22. BLDG. 3522 Artillery Systems Test Branch, Unit#1

MAKE: Applied Membranes Inc.

MODEL: 22521 TP

NOTES: Unit has an RO-MATE 80

23. BLDG. 3522 Artillery Systems Test Branch, Unit#2

MAKE: Applied Membranes Inc.

MODEL: 22521 -TP-V

NOTES: Unit has an RO-MATE-20

24. BLDG. 3527 Climatic Testing

MAKE: D&S Services

MODEL: 900 GPD

NOTES: Unit has a water softener and two (2) Contractor furnished rechargeable commercial grade mixed bed deionization tanks, with water quality indicating light.

"Requirements are to provide a minimum of (6) GPM of deionized water". Unit also has a storage tank and booster pump.

25. BUILD. 3530 Motor Pool Dispatch Office

MAKE---Applied Membranes Inc.

MODEL: AA 12521

NOTES: Unit has an RO-MATE-20

26. BUILD. 3558 Range Commo Branch

MAKE: Applied Membranes Inc.

MODEL: AA 12521 tp

NOTES: Unit has an RO-MATE-80

27. BLDG. 3700 Ammunition Recovery Branch

MAKE: Applied Membranes Inc.
MODEL: AA 12521 TP
NOTES: Unit has an RO-MATE-80

28. BLDG. 3743 Ammo Storage Office
MAKE: Applied Membranes Inc.
MODEL: AA 12521 tp
NOTES: Unit has an RO-MATE-20

29. BLDG. 5100 Test Target Fabrication
MAKE: Kelco Water Engineering
MODEL: N/A
NOTES: Unit is a self contained package unit

30. BLDG. 6008 Castle Dome Annex
MAKE: N/A
MODEL: N/A
NOTES: Unit has water softener and pre-treatment chemical tanks with chemical pumps.

31. BLDG 3021 Connex - LAAF
MAKE: D&S Services
MODEL: 600 GPD
NOTES: 86 Gallon pressure tank

32. BLDG 3490 N
MAKE: Kelco
MODEL: 300 GPD line pressure
NOTES: Has small storage tank, pressure pump and pressure tank

33. BLDG 3785 Countermine Facility
MAKE: Flowmatic Systems Inc.
MODEL: 1000 GPD
NOTES: Unit has 86-gallon pressure tank

34. BLDG 3556 A/C Electrical Shop
MAKE: Absolute Water
MODEL: 600 GPD
NOTES: unit has 40 gallon pressure tank

3.2 General Requirements

3.2.1 Deficiencies, Safety Hazards and Code Violations: Should the contractor find or observe any deficiency, safety hazard or code violation in the existing electrical system, equipment, devices or installations that is not indicated or specified to be corrected under the contract, it shall be promptly reported to the (COR).

3.2.2 All operations, maintenance and emergency repair work shall be performed in strict accordance with the contract technical specifications.

3.2.3 The Contractor shall be responsible for providing acceptable product water by operating each system to the maximum purification ability designed into it by its manufacturer. The Contractor will be subject to unannounced inspections by personnel from YPG offices of Preventive Medicine, Environment and/or Safety. Discrepancies identified by YPG personnel during these inspections will be corrected as directed by the COR.

3.2.4 The Contractor shall clean the work area and dispose of all debris. The work area shall be maintained in an orderly and safe operating condition.

3.2.5 Any warranties or data provided by material manufacturers shall be furnished to the COR.

3.2.6 Equipment required for lifting, removal, installation, or reinstallation of any equipment or water treatment components shall be provided by the contractor at no additional cost to the Government.

4. PERFORMANCE

4.1 The Contractor shall perform all work with qualified and experienced personnel. All personnel working on the WTS shall currently possess and maintain, for the duration of the contract period, as a minimum, a current State of Arizona, Department of Environmental Quality Certificate in Water Treatment.

4.2 All WTS shall be maintained in good operating condition.

4.3 The Contractor shall utilize manufacturer's operating and maintenance manuals for instructions in the removal, replacement, and repair of any WTS components or associated parts required by each "brand" of system component.

5. WORKMANSHIP

5.1 All materials and equipment shall be installed in accordance with the approved recommendations of the manufacturer to conform to the contract documents. The installation shall be accomplished by workmen skilled in the appropriate work.

6. OPERATIONS AND MAINTENANCE

6.1 Inspection:

6.1.1 Inspection Reports: Inspection reports (contractor monthly performance report) shall be prepared for each WTS and component serviced in conjunction with any operations, maintenance or Emergency Repair work performed. Reports shall be provided to the COR monthly. Reports shall include, as a minimum, the following: Serviceability, component condition, function and identified repair/replacement requirements and maintenance performed. Reports

shall be submitted using the Contractor's Performance Report format furnished or a, format prepared by the contractor and approved for use by the COR.

6.1.1.1 Any approved WTS or component replacement or repair required shall be documented by the Contractor on the weekly Contractor's Performance Report. Any WTS or component repair or replacement found to be required due to negligence on the part of the Contractor, due to improper operations or failure to perform required Preventive Maintenance, shall be performed at no additional cost to the Government.

6.2 OPERATIONS

6.2.1 Standard Operating Procedure: The Contractor shall visit each WTS on a weekly basis to perform water analysis and record information listed on the R/O System Performance Report form. The reports are to be provided to the COR weekly. The R/O units shall be maintained to provide a minimum acceptable rejection rate of 95%. Water softeners must be maintained such that they produce water with maximum hardness of 1 grain or less.

6.2.1.1 The Contractor shall provide copies of all WTS performance reports to the COR weekly. The reports shall contain detailed descriptions of all maintenance, repairs and chemical additions necessary to maintain the unit.

7. EMERGENCY REPAIRS

7.1 During the contract period, all major emergency repair requirements of the Water Treatment Systems determined to be required by the Contractor and approved by the COR, shall be accomplished by the Contractor as an Emergency Repair requirement of the contract.

7.2 Any emergency repair accomplished by the Contractor will be in response to the receipt of an approved Public Works Service Order. This form titled, "Public Works Service Order" constitutes an intent by the Government to authorize work to be accomplished in accordance with the job description indicated on the form. The Contractor shall furnish all labor, material and equipment in accordance with paragraph 2.1.2.1 necessary to accomplish the Service Order. Upon completion, the Contractor will fill out the Contractor's Section of the Service Order and return the original to the COR.

7.2.1 EMERGENCY REPAIR RESPONSE TIME: The Contractor shall respond to emergency calls within 2 hours of notification by the COR and/or Contracting Officer. Emergency repairs shall be accomplished the same day of Notice to Proceed unless otherwise approved by the COR. The notice to proceed shall consist of the

signature approval of the Contracting Officer and/or COR, on an approved Service Order submitted to the Contractor by the COR.

7.2.2 Prior to the execution of any Emergency Repair, the Contractor shall, upon receipt of a signed Service Order, inspect the requirement and make a list of all materials and if applicable, labor required. This list shall indicate parts by proper name. The list shall be prepared to identify separately the labor, if applicable, and material costs. The list shall be submitted, along with the signed Service Order, as a "Cost Proposal" to the COR for approval.

7.2.3 Only the, Not To Exceed, (NTE) cost approved by the COR and/or the Contracting Officer, with approved Service Order, will be paid for by the Government. Any work accomplished without this approval will not be paid for by the Government.

7.2.4 If the "Cost Proposal" sum for all parts and labor provided on the list is equal to or less than \$2500.00, the COR may authorize the work. However, if the proposal is in excess of \$2500.00, the proposal shall be forwarded to the Contracting Officer, by the COR, for approval. In all cases, the following procedures shall be followed: Submit to the COR, in Contractor's format, a listing of all labor and materials required. If approval of work is granted, the COR will provide a signed Service Order to the Contractor.

7.3 All parts and materials to be furnished and installed under this contract shall be new, meeting all the requirements of this contract and be paid for by the Government at the Contractor cost. All materials used shall be documented on a Supplier's Statement of Billing or Invoice of Purchase. A Supplier's Statement of Billing or Invoice of Purchase for all materials used shall be provided in conjunction with each completed Emergency Repair.

7.4 The Government shall reserve the right to review all materials and parts cost as submitted by the Contractor.

7.5 The Contractor shall provide, for inspection to the COR, all removed parts replaced as part of an Emergency Repair for analysis and verification of replacement.

7.6 All repair work initiated shall be accomplished that same day, unless otherwise approved by the COR.

7.7 Any WTS and/or component to which repair work has been started but cannot be finished that the same day, will be secured in the closed position with a warning sign attached to indicate potential operators as to the possible dangers of the unit. In no case shall the Contractor leave a WTS and/or component in the process of repair in an unsafe and unsecured condition. If delays in repair time are encountered the Contractor will notify the COR of any such delays.

7.8 All work performed under this contract shall include any and all clean up and painting required, in conjunction with repairs or installation as determined necessary by the COR.

*****END OF SECTION*****